

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-004433**Date Inspected:** 29-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Zhang Bao**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Assembly**Summary of Items Observed:**

This report serves to document the events occurring on this date at the following location. Caltrans Quality Assurance (QA) Inspector Robert Vatcher arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

**OBG Assembly Bay II**

4BE- Welding operation at LD003-003-027 by welder 044795 again joint cleanliness including dirt was brought again to the ZPMC QC personnel Chen Chih Ming. As well welding operations being performed at LD004-003-018 and 002

Mid bay- QA was tasked with performing welding operation monitoring at locations where diaphragm plates are being joined to deck panels specifically DP001-001 and DP002-001 in the complete joint penetration location which occurs approximately in the top 100 millimeters of the joint. QA observed for this operation the FCAW process utilizing 1.4 mm diameter Supercored 71H E71T-1 electrode wire in DCEP mode. Welder Yang Tianbing 066439, a qualified welding operator was observed as well utilizing a narrow weave bead method for this evolution per the welding procedure specification WPS-B-T-2233-TC-U4B-F. QA measured amperage to be 230 (average), voltage at 24.5 to 25.5 and a travel speed of approximately 171 mm per minute however utilizing a narrow weave bead method which is outside of the WPS allowable parameters. As well the above mentioned amperage is above the required parameter per the WPS. ZPMC QC personnel for this evolution who did not discover this issue before QA is Zhao Cheng Jian. This issue was brought to the attention of AB/F QC

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representative Man-Kit Li and ZPMC QC Zhang Bao who decided that ZPMC would generate an internal Non Conformance Report (NCR) for this situation.

5BW- Welding operation being performed at SSD11a-PP33 floor beam to bottom plate fillet weld where welding over paint was just about to occur. QA spoke with Shen Fuyou and Wu Shi Gao concerning this ongoing issue and was corrected onsite at time of incident.

North OBG Sub-Assembly Outside Yard

Joining of deck panel DP4372 prior to splicing of sub sequential deck panels & super panel assembly by SAW method to Welding Procedure Specification (WPS) WPS-B-T-2221-B-L2C-S-2. QA requested and observed travel speed measurement performed by ZPMC QC personnel Li Jie prior to the final weld layer being placed. Measured travel speed was 550 mm per minute which falls between the allowable parameters per the WPS.

The above mentioned items as observed, corrected by contractor QC & documented by QA appear to conform to the contract documents.

### Summary of Conversations:

No relevant conversations this date.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco 138-1694-2685, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Vatcher,Robert	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer

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